resin films made of polyethylene terephthalate (PET); a first peripheral circuit SC**1**; a second peripheral circuit SC**2**; a power source; and a detection signal output terminal.

[0070] The first substrate SUM and the second substrate SUB**2** are flexible printed circuit boards formed as follows. That is, a PET film and a copper foil having a film thickness reduced to 10 μm or less by a cold rolling process are adhered to each other using a decorative steel sheet technique. Thereafter, using an etching technique in which an etchant is ejected at high temperature and high pressure, metal is processed into stripe-shaped metal lines (wiring) (a first electrode and a second electrode) each having a taper angle of 80 degrees to 90 degrees respectively. The first substrate SUB**1** and the second substrate SUB**2** are arranged so that their respective metal lines face each other in an opposed manner and that the extending direction of the metal lines on the first substrate SUB**1** and extending direction of the metal lines on the second substrate SUB**2** intersect with each other.

[0071] The first peripheral circuit SC**1** is connected to the first substrate SUB**1**, and sequentially selects the metal lines by line so as to sequentially input a voltage to these lines from the power supply. The second peripheral circuit SC**2** is connected to the second substrate SUB**2**, and sequentially selects the metal lines by line so as to sequentially detect a voltage to these lines from the power supply.

[0072] FIG. **10** is a cross-sectional view of a touch panel of this embodiment. The touch panel includes the first substrate SUB**1**, the second substrate SUB**2** and spacers SPACER. The second substrate SUB**2** is fixed to the first substrate SUB**1** using a sealing material not shown in the drawing by way of the spacers SPACER.

[0073] FIG. **11** is an enlarged cross-sectional view of the second substrate SUB**2** within an AA region in FIG. **9**. As described previously, metal lines MLINE are arranged on the polyethylene terephthalate (PET) film.

[0074] According to this embodiment of the present invention, by adhering resin films provided with metal lines to each other by way of the spacers, the basic recognition structure can be realized, thus making it possible to manufacture an inexpensive touch panel which allows high-speed multipoint inputting and exhibits high durability. Further, a bright display can be realized by reducing a width of the metal line into less than 50% of the wiring pitch of the metal lines.

[0075] By providing the spacers in the gap, it is possible to ensure a uniform gap between the substrates SUB**1**, SUB**2**. Further, a maximum width of a planar shape of the spacer as viewed from the substrate direction is set larger than the wiring pitch of the metal lines. Accordingly, it is possible to prevent short-circuiting between the metal lines which face each other in an opposed manner attributed to the deformation of the resin film substrate, and it is also possible to suppress erroneous recognition of the touch panel. Further, a maximum width of a planar shape of the spacer as viewed from the substrate direction is set larger than the wiring pitch of the metal lines and hence, a possibility of short-circuiting can be reduced. Further, different from lines made of ITO, the metal lines do not allow light to pass therethrough. Accordingly, the width of the metal line is set to less than 50% of the wiring pitch of the metal wiring so as to prevent the reduction of transmissivity. By setting the wiring width to 13 to 20 μm, an inexpensive photo mask is available. The metal line is formed of an opaque metal film and can be made of carbon (C), nonferrous metal such as copper (Cu), stainless steel (SUS) or iron (Fe) besides aluminum (Al). As the resin used for forming the first substrate SUB**1** and the second substrate SUB**2**, it is possible to use triacetyl cellulose (TAC) besides polyethylene terephthalate (PET). Other materials may be also used provided that a film made of such materials exhibits low birefringence in the same manner as the above-mentioned materials.

[0076] According to the embodiment of the present invention, a fine wiring pattern made of metal can sufficiently achieve the high definition of 300 lpi (line per inch). That is, the wiring pattern of this embodiment can increase the resolution thereof ten times or more compared to the resolution of a conventional example which is approximately 10 ppi (point per inch). In addition, the fine metal wiring pattern can be manufactured even when the metal line has a width of 10 μm and a thickness of approximately 10 μm. Therefore, by designing the fine wiring pattern such that the resolution of approximately 100 lpi is obtained, it is possible to improve the transmissivity of the resist-film-type touch panel compared to transmissivity of the conventional resist-film-type touch panel.

[0077] Although there may be a problem in terms of cost, the metal wiring can be manufactured not only by etching but also by precipitation, plating or the like.

[0078] To set forth the advantageous effects brought about by this embodiment of the present invention, they are as follows.

[0079] (1) With the use of the metal lines or metal wiring which are subject to addressing, a plurality of points can be detected simultaneously.

[0080] (2) Due to the advantageous effects set forth in (1), the detection can be performed by a digital circuit leading to the reduction of cost.

[0081] (3) Patterning of the transparent electrode becomes unnecessary leading to the reduction of cost.

[0082] (4) The metal wiring pattern and the flexible cable pattern can be formed simultaneously leading to the reduction of cost and the enhancement of reliability.

[0083] (5) The metal lines exhibits low resistance and hence, it is possible to increase a size of the touch panel to 40 inches or more (diagonally 1 meter or more) thus expanding an application of the display device with a touch panel to an area where mounting of a touch panel on a display device is difficult conventionally.

[0084] (6) It is sufficiently possible for the metal wiring to have a definition of 300 lpi or more and hence, the resolution can be increased 10 times or more compared to the current resolution of approximately 10 ppi.

[0085] (7) By using the above-mentioned high resolution and function of detecting a plurality of points simultaneously, it is possible to distinguish the difference in an object to be inputted to the touch panel or a method for inputting an object to the touch panel. For example, the difference between a stylus and a finger can be distinguished based on the difference in the number of detection points.

[0086] (8) By changing the color of the above-mentioned metal lines into black, it is possible to increase a contrast of a display such as a liquid crystal display on which a touch panel is mounted.

[0087] (9) The coordinate detection is performed using the metal lines (each line having a thickness of 10 μm) and hence, the reliability in lifetime such as the number of detection times is increased 10 times or more compared to the conventional transparent electrode (having a thickness of several hundred nm).